

## Highly Selective Photocatalytic Benzene Hydroxylation to Phenol Using Surface-Modified Cu<sub>2</sub>O Supported on Graphene

Jinbao He,<sup>a</sup> Min Zhang,<sup>b</sup> Ana Primo,<sup>a</sup> Hermenegildo García, <sup>\*a</sup> Zhaohui Li <sup>\*b</sup>

<sup>a</sup> Instituto de Tecnología Química, Consejo Superior de Investigaciones Científicas-  
Universitat Politècnica de Valencia, Av. De los Naranjos s/n, 46022 Valencia, Spain

<sup>b</sup> Research Institute of Photocatalysis, State Key Laboratory of Photocatalysis on  
Energy and Environment, College of Chemistry, Fuzhou University, Fuzhou, 350116, P.  
R. China.

**Table S1** Conversion of benzene and formation of the products over Cu<sub>2</sub>O-8/dG under LED illumination

Time (h)	Benzene conv.(%)	Phenol yield (%)	Phenol selec.(%)	Benzoquinone yield(%)	Mineralization (%) <sup>[a]</sup>
2	9.68	3.59	37.07	3.03	5.29
4	14.63	4.35	29.75	4.07	8.31
8	19.16	11.91	62.16	1.21	8.02
10	22.63	14.77	65.26	1.23	8.52
12	26.00	17.23	66.27	1.39	9.19
16	30.18	19.30	63.94	0.47	10.40
24	32.11	18.32	57.05	1.69	14.22

<sup>[a]</sup>Mineralization (%) = (initial amount of benzene – residual benzene – phenol – benzoquinone) / (initial amount of benzene) × 100 %

Figure S1 The spectrum of LED lamp

